

President Nixon, on January 11, signed the Health Appropriation Act for fiscal 1971. This legislation had been entangled by many side-conflicts, so that it was delayed more than half of the year to which it was intended to apply. Meanwhile, health services and research have been funded by a continuing-appropriation. This has allowed ongoing projects to continue at established rates, but has been a serious obstacle to starting new projects. Even continuing projects have been impaired by budget freezes and other administrative headaches during this interval.

We should now be gratified that the Congress has responded with this new budget to a perception of national need. Indeed, the funds for the NIH, which are the mainstay of health research in the U.S., amounted to 1.130 billion dollars, almost \$100 million above the budget requested submitted by the White House. This request was framed on a policy of "no new money over last year", despite the fact that price-inflation hits research yield about 10% per year, and despite of our discovery every day of new challenges and new opportunities for health research on behalf of human needs.

The Congressional appropriation then amounts to a little over what is needed to hold the line, and this after several years of equally serious restraint in the area of health research.

The President's signature of this act may be a sign that we have turned the corner in the White House's recognition of the mandate, repeatedly expressed by Congress, that the American people recognize health research as the most effective way to minimize the future cost in money, pain and anguish of disease; that at a time when our commitment to health in the area of services, of a high standard of care for the whole citizenry, begins to reach what our political conscience and social order demand, we cannot afford to destroy the tools by which a higher standard of life must be reached.

Unfortunately, health research has no particular lobby or political constituency. The people best equipped to report on the impact of budget cuts are those who, like my colleagues here and myself, are deeply involved in it. We command very few votes; and of course we can be accused of self-interest in pleading for these funds, as can anyone whose work is in public service. We realize that we will get nowhere in these pleas unless the interested public, those whose health is at stake in our research, express themselves directly--in letters to the President, to congressmen, to the editors of their local newspapers, about their feelings on this matter.

The fact is that there still remains quite a gap between the appropriation of these funds by Congress, and their actual use for maintaining and invigorating new projects.

In spite of having signed the act, the President still has the authority to allocate or to withhold the funds. This is not a partisan issue--many previous administrations have used this prerogative in order to save tax moneys in favor of other programs that had stronger political clout. The President has not yet expressed himself, one way or the other. Surely his decisions can be influenced by public expressions of concern at this critical time.

It is disconcerting that some of the President's advisers have commented in opposition to the increases in research funds in their testimony before Congress and in other public statements. It is distressing when their arguments are based on cliches that reflect serious ignorance of the actual mode of training of physicians, of the relationship of research and clinical training in the medical schools, and of the desperate financial plight of many schools when we have unprecedented needs for access to medical education or for more skilled professionals to clear up a pernicious scarcity market.

We hear, for example, that research funds should be withheld because we need practicing doctors rather than laboratory men in white coats. No one who has studied the careers of the graduates of our medical schools could support such an argument. We do have problems in providing enough professionals to meet the needs of community medicine, as well as the high-income and high-prestige specialties (surgery, anesthesia, radiology and so on). This discrepancy operates in spite of the inducements of research, not because of them; fundamentally, it reflects the very high value we should and do place on the specialists' services when we need them. It will not solve this problem to drive medical schools into bankruptcy! This argument is even more factious when we lack a serious commitment to provide for the considerable expansion of fellowships and of facilities needed to increase the output of practitioners.

Meanwhile, the institutions in which modern medicine can be taught have been built with support for health research. It would be better if medical education were supported directly on its own merits, rather than merely as a spillover benefit of subsidies for research, but choking the source will dry up the entire stream.

Furthermore, the manpower resources for research, for specialty practice, and for community medicine are scarcely in competition. They require rather different intellectual sets, college preparation, and above all basic self-images about how a given individual can best function in and for his society. More and more of the basic research in medical schools is, and should be, done by Ph.D.s who do not require the same scarce facilities for clinical training as the M.D. We are beginning to recognize that community medicine may well be approached better by a different curriculum, and certainly better by a different type of student, than the clinical specialty. The latter will continue to require ever more extended training and supervised experience; for the former, we envisage many productive experiments in accelerated medical education, and emphasis on the social and interpersonal needs of the patient clientele for primary care. We must build on all of these fronts; nothing could be more destructive than to tear down our research competence because we have much unfinished business in other quarters. Indeed nothing will do more to assure perpetual frustration at our inability to answer the distress of heart disease, of congenital malformation, of cancer. Good will and social zeal alone will not solve these problems that touch us all!

The frustration of ignorance hits us in many ways; not only in our private, oft-concealed dread of how each of us may be prematurely stricken, and in our anxieties about our loved ones. It also exacts a serious price in the confusions and conflicts of our public policy. How much have we saved by not knowing of the threat of the contamination of seafood by mercury, when some unknown number of us may have been chronically poisoned? Alternatively, what needless anxiety has been raised; how do compensate the fishermen; what do we think of wasting vital protein if the condemnation of deep sea fish proves not to be justified? The cost of this uncertainty may be less than the NIH budget. Our confusion, which is founded on pure ignorance that could be cleared up by research not yet adequately funded, about the health cost of radiation is probably costing us at least that amount today -- by delaying

the exploitation of nuclear energy on well-founded standards, or by permitting the continued development of a technology which may be found untenable with further knowledge. We have both discovered, and, with large scale industrial technology, also invented enormous problems of environmental health -- for mercury and radiation, and also for lead and pesticides and food additives and many others, we must take enormously expensive precautions, not out of real certainty as to the scope of the hazard in every case, but out of wise prudence to protect that priceless value of health. This is another price of ignorance.

Finally, I must mention one item in the Congressional appropriation which does not loom very large fiscally (it is for \$10 million in total, one tenth percent of the appropriation) but may be qualitatively as important as the rest. This is the mandate for the development of a definite policy on genetic research within the NIH (specifically under the leadership of the National Institute of General Medical Sciences). This was carefully examined, and expressly approved by both houses; but as a new initiative, it is at special risk of being sliced off without very serious consideration. The significance of genetic factors in disease has usually been overlooked. This is partly a result of our gratifying successes in dealing with the infections and other acute threats to life. Partly, the easiest conditions in which to recognize the role of genetic factors are rare ones -- like phenylketonuria or Tay-Sachs disease. Although about one newborn child in fifty suffers significantly from a genetic defect, the types of difficulty are distributed over many hundreds of different conditions, about which some of our knowledge is only very recent. And, for lack of knowing what to do about it, we tend to overlook the genetic or "constitutional" factor in every common disease. The more we learn to deal with environmental and infectious hazards, the larger the genetic factors will loom in the residue of unmet challenges.

Our new knowledge of molecular biology gives us the first serious illumination of how may learn to approach genetic diseases more confidently, to be able to do better than counsel a troubled couple that they had better not risk having more babies. The special appropriation was intended in part to advise the NIH: "take genetics seriously; do not leave worthy projects to die on the vine, as has been necessary in other scientific areas." It is also an initiative to look for the ways in which scientific inputs relevant to useful applications in repairing genetic defect can be kept in better communication, and especially to close the gaps between the most esoteric, basic research and potential clinical applications in man. Just because these also involve the most careful attention to the overriding concern of conscientious people about the quality of life of their offspring, we need careful advance planning to be sure that new research findings in medical genetics are promptly but very critically analyzed for their scientific validity, and also that every step that is taken has exhibited a proper regard for the ethical and legal responsibilities of such research. Much has been said about the need for careful respect for human rights in the development of new procedures. When all is said and done, one of the most important considerations is the integrity of the scientific thinking that has gone into them, and there is no better assurance of preserving this than careful study and open ventilation of future plans and programs.

I urge every citizen to communicate to the President his own view of the priority that should be given to health research at this time.